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NOTES AND NEWS.

THE GEOLOGIC HISTORY OF A PREHISTORIC HEARTH FOUND IN WESTERN NEW YORK.—The substance of the following paragraphs was communicated to the Anthropological Society November 16, 1886.

About thirty years ago Mr. David Tomlinson, a farmer living in the town of Gaines, Orleans county, N. Y., discovered what he believed to be a prehistoric hearth. My attention was called to the find by Mr. George H. Harris, of Rochester, N. Y., who has published a clear account of it on pages 14-16 of the Semi-centennial History of Rochester, N. Y., 1884. I visited the locality in September, 1886, for the purpose of verifying the find and determining its precise geologic relations.

Mr. Tomlinson's statement needs no qualification as to credibility other than that which pertains to all narrations from memory of events long past. A spring upon his farm near the Ridge Road failed and a well was dug on its site. From time to time the well was deepened, and in the course of a deepening executed about 1858 the supposed hearth was discovered at a depth of 15 to 18 feet. It consisted of three bowlders about one foot in diameter, lying close together in the form of a triangle, and surrounded by ashes and fragments of charcoal. Between the stones and pointing toward the central area lay sticks from one to three inches in diameter; the inner ends were charred, the outer not. Above the stones lay other branching sticks which were not charred. All of them were barkless. These, being first seen, attracted the attention of the digger and led him to explore carefully, so that the relations of the essential elements were observed *in situ*. The various articles were removed from the well, shown to neighbors and preserved for many years, but were finally lost.

During the retreat of the great ice sheet from the Laurentian basin there was a long period during which lakes were held between the ice front and the southern rim of the basin. The outlines and arrangement of the lakes were changed from time to time with the progressive retreat of the ice. When the Ontario basin was first freed from ice, the lake occupying it outflowed *via* the Mohawk valley,

and this lake produced a shore-trace which stands from 100 to 500 feet above the present water margin. In the town of Gaines this shore line is about 175 feet above Lake Ontario, and its most conspicuous feature is a beach ridge upon which a road, known as the Ridge Road, is located. The well in question is on the north or lakeward flank of this ridge, and the hearth was found at the base of the littoral material where it rests on bed-rock. The local relations, taken in connection with the phenomena of the shore line as elsewhere observed, indicate that the hearth was made not long after the establishment of the Mohawk outlet and during its continuance. It belongs therefore to the period of the decline of the glacial climate. If, with Professor Chamberlin and others, we recognize two epochs of glacial climate in the district of the Great Lakes, then the date of the hearth belongs to the waning phase of the later and briefer epoch.

The climate of the locality could not then have been genial. The lake on whose southern margin the hearth was built washed at the northeast a wall of ice, and icebergs floated on its bosom. And yet a few days' journey may have led to a hospitable land. The ice of the glacier was not made in the Ontario basin, but far to the northeastward. From its cold source it flowed toward regions of warmth, chilling the air as far as it went, but at the same time, and as part of the same process, receiving heat and gradually melting. But for its intrusive presence the district of its margin would have had a milder climate than it actually had; and despite its presence the neighboring valley of the Ohio may have been nearly as warm and fertile as now.

G. K. GILBERT.

THE FIRST DOCTOR PHILOSOPHIÆ WITH ANTHROPOLOGY AS MAJOR SUBJECT—(Der erste Doktor philosophiæ mit Anthropologie als Hauptfach). Archiv für Anthropologie, August, 1888.

At the University of Munich, on June 9th, 1888, G. Buschan, M. D., graduated as Doctor philosophiæ summa cum laude. This was the first promotion to the doctorate in a German university in which modern Anthropology constituted the major subject. In this subject Professor Ranke was examiner. The minor subjects were Zoology and Botany.

P. TRACY.

CAMPING CIRCLES OF SIOUAN TRIBES.—Most of the tribes of the Siouan or Dakotan family inhabiting the prairies west of the Mississippi when met by the early white explorers depended on the buffalo for their chief supply of meat, robes, tent skins, moccasins, etc., until a few years ago. These tribes, when camping for a night, or for a rest of two or more days, pitched their tents in the form of a complete or broken circle. The latter is called a "horseshoe" by some writers. The part between the "heels" of the "shoe" is called the *door* by some and the *Hunkpa* by others (among the Dakota missionaries).

It is proposed to call attention to the characteristics of these circles, of which two classes are found. The Winnebagos, according to James Alexander, a full-blood member of the Wolf gens, had no camping circle, as their priscan habitat was in a forest region, and not in an open prairie country. Our inquiries must be confined to three groups of the Siouan family—the Dakota, Dhegiha, and Tciwere.

While Miss Alice C. Fletcher speaks of the Hañgashenu Omahas as occupying the south side of the tribal circle, she means (as she has told the writer) a mythical or imaginary south, not an actual one. The writer was told by members of the Omaha tribe that when they were migrating or traveling in search of the buffalo the circle was not orientated. The road traveled by them always formed the diameter of the circle, or the dividing line between the Ishtasanda and Hanga-shenu half-tribes, no matter in what direction it pointed. This road always formed the diameter of the circle among the Omahas, Ponkas, Osages, Kansas, and the Tciwere tribes (Iowas, Otos, Missouriis).

On the other hand, this road was supposed to extend east and west when a permanent village was formed among the Kansas. And among these people, as well as in the Omaha and Osage tribes, the entrances of the permanent lodges faced the east, while in migratory tents or lodges it was otherwise. With the Osages, on ordinary occasions, whatever might be the actual direction, the imaginary one was eastward, and the opening in the circle was towards sunrise. But before going after "the souls of animals," *i. e.*, for the taking of life of any sort, the door of the circle faced the west, and the imaginary course was always towards sunset.

The Osage tribe seems to be composed of "Three Nations," the Tsicu, in seven gentes occupying the left side of the tribal circle,

while the Hañka and Washashe, each in seven gentes, camp on the opposite side. In former days the Ponkas camped in three, and the Omahas in two concentric circles, when they could not find a level of sufficient extent for them to camp in one large circle. Hence the Dakotas called the Ponkas the "Oyate yamni" or Three Nations, and the Omahas, the "Oyate nonpa" or Two Nations. Among the Ponkas, the Tci²ju gentes (answering to the Tsi²cu of the Osages) camped on the right, and the Wajaje (answering in a measure to the Osage Wa-sha-she) pitched their tents on the left.* This use of concentric circles does not seem to have been confined to the Omahas and Ponkas. According to Miss A. C. Fletcher, the "Seven Council-fires" or Dakotas used to camp in two sets of concentric circles, one of three circles, the other of four. If she was correctly informed, the three circles were probably occupied by the Tetons, Yanktons, and Yanktonnais, and the four circles by the four "tribes" gentes, or "council fires," known as Eastern or Minnesota Dakotas. A comparison of the dialects led the writer to suspect a prehistoric affinity existing between the Tetons, Yanktons, and Yanktonnais before he obtained the information about the concentric circles from Miss Fletcher.

In the second class of camping circles the rule is said to be orientation, though the entrance or door among some, if not all, is at the north, not at the east. This is the case among the Sisseton and Warpeton, who are Eastern Dakotas, and the Oglala and Si-chan-ghu (or Brules), divisions of the Tetons (Lakotas), part of the Western Dakotas.

We find the names Hunkpapa and Hunkpati (Hunkpatidan, Hunkpatina, Hunkpatila) applied by the Dakotas to certain parts of their nation. At present, the Hunkpapa form the seventh division of the Tetons, having their own camping circle, and the Lower Yanktonnais are called Hunkpatina. These two proper names are evidently derived from the Dakota word, hunkpa, the name of the entrance to the circle (Rev. H. Swift). Hunkpa is thus explained by Rev. S. R. Riggs: "It is derived from he, horn, and oinkpa, tip end, and is so called because the horseshoe or circle resembled the horns of a buffalo." Hunkpapa seems to mean "At or Towards one of the hunkpa or ends of the camping circle," referring to the

* So stated by the head chiefs, White Eagle and Standing Buffalo, in reply to a query made by the writer a few years ago.

camping area of that people somewhere in the three concentric circles. This people is sometimes called Uncpapa and Uncapapa. Hunkpatina may be analyzed thus: *hunkpa*, at the horn or tip end of the circle; *ti*, to pitch the tents or dwell; *na*, a diminutive ending (though it may not have that force here). Query: Was there more than one Hunkpatina, one for each of the concentric circles?

The writer will be glad to receive criticisms on this article from any source. One object in publishing this and other papers is to suggest lines of inquiry to future investigators.

J. OWEN DORSEY.

A NOTE ON PERFORATED STONES.—I read with great interest a paper on *Perforated Stones from California* by Henry W. Henshaw, published by the Smithsonian Institution under date 1887, and received by me some two or three months ago.

I have in my possession a number of war clubs from New Britain, which consist of a wooden handle armed at the head with perforated stones which have been ground down to a smooth surface. The accompanying sketch was made for me by my friend, J. Macfarlane,



Esq., of Melbourne, from a club with the stone *in situ* and from a detached stone which I gave him for the purpose. The drawings are exact representations of the originals.

The handle is 4 ft. 3 in. long and projects at the head 3 in. beyond the stone. The stone weighs exactly $12\frac{1}{4}$ oz. Some of these stones in my possession are larger than the specimen drawn, while others are smaller; but one has only to handle a club armed even with the lightest of them to be convinced that it is a formidable weapon. The smallest of the stones in my possession weighs 9 oz. 15 grains.

If the drawing of the detached stone be compared with the sketch given on p. 10 of Mr. Henshaw's paper, the remarkable similarity between the two cannot fail to be noted. There is also a particular coincidence which is important. "It is to be particularly noticed,"

Mr. Henshaw says, "that many of the stones have grooves worn around the perforations, which grooves appear on one side only and that the polished side." My specimens from New Britain also have this groove on one side only, and its use may be seen in the accompanying sketch. The stone is always fixed on the handle with the grooved side undermost, and this groove is filled up with a sort of collar composed of strongly adhesive gum in which is set, for ornament, I suppose, a circlet of the small shell-tips which, threaded on a string, are the money currency of New Britain. This keeps the stone firmly in its place and prevents it from slipping down. The groove, of course, is necessary for the reception of a sufficient quantity of gum and shell. It would, perhaps, be more correct to say that the groove is filled with gum and that the "money" is then stuck on around the staff and pressed up into the gum before it hardens.

The lower end of the handle is sharpened and is used as a thrusting spear at close quarters.

These clubs are still in active use cracking skulls in New Britain at the present day; and this fact proves that whatever other uses perforated stones may be put to, they are certainly utilized as war clubs. The evidence is conclusive that they are used by the Hottentots as weights for digging sticks; but I have not met with any proof that they *manufacture them for that purpose*. I have seen a statement, though where I cannot remember, that these stones are frequently found exposed after the soil has been washed away by heavy rains, and it is quite possible that Burchell's Hottentot, quoted by Mr. Henshaw on p. 12, may have been utilizing for his *graafstok* the club-head of some long-forgotten warrior of another race.

It is quite likely that the stones in some places may be perforated specially for digging sticks, but it does not seem likely that the same stone would be used for that purpose and for a war club as well, as suggested by the Rev. Langham Dale, quoted by Mr. Henshaw on p. 13. The savage needs to have his war-club always ready, and the stone must be a fixture in a position which unfits it for digging purposes.

The digging stick is used throughout the South Sea Islands and in Australia, but I have never met with it weighted by a perforated stone. Among the Australian blacks it is a woman's implement. The women use it for digging wild yams and edible roots. They

also employ it very effectually as a weapon when their husbands are hard pressed in a fight and they come to the rescue. They rush in, shrilly screaming, and make excellent play with their yam sticks on the heads of the foe.

LORIMER FISON, M. A.

SERPENT SYMBOLISM.—In the cosmogonic philosophy of many nations the serpent is found playing, symbolically, a prominent part, perhaps because of the primitive belief that the serpent never dies but forever renews its life. It is thus considered fitly symbolic of life. Serpent symbolism has both a beneficent and an evil side. These remarks are confirmed by reference to the original or primitive signification of the words for *demon*, *devil*, *wizard*, *witch*, and *subtile* or *supernatural* in the Iroquoian, Algonkian, and other Indian tongues. The word *u''-tkē''* is the Tuscaroran form of *ō'-tko''*, which is common to the Senecan, Onondagan, Oneidan, Cayugan, Nottoweyan, and Mohawk languages, and it appears in Huron as *ō'-kī* and *ō''-da-kī* or *ō''-tā-kī*. The prominent part it plays in the mythology and daily life of the Iroquoian peoples makes it interesting to know that the first meaning of the word *u''-tkē''*, still extant in some of these tongues, is "snake." This meaning is found in Oneida and Tuscarora, and it is not unlikely that sufficiently copious vocabularies of the cognate tongues would reveal this original signification in them also. Among the most frequently recurring meanings of this word in all of these tongues are the following: *wizard*, *witch*, *subtile*, *occult*, *inscrutable*, *mysterious*, and *supernatural*. In addition to these, in Seneca it means *poison*. Among the Hurons it was frequently used as one of the titles or names of their tutelar or inferior deities and of their medicine men. Anything that is not understood is said to be *u''-tkē''*, or a *witch* or *wizard*, or *witch-like*—*i. e.*, *subtile*. If any person performs a remarkable exploit or exhibits extraordinary talents or craftiness, he or she is said to be *kā''-nē'' u''-tkē''*—*i. e.*, a *veritable wizard* or *witch*. Qualified by the adjective *bad* or *evil*, it is used in these tongues as the equivalent of the English word *devil* or *Satan*. The early missionaries among the Mohawks, wholly misconceiving the true meaning of *ō'-tko''*, adopted it as the exact equivalent of the proper name

Holy Spirit or *Holy Ghost*, although it seems that the Indians disapproved of such use.

In Iroquoian cosmology, a woman called A-tā-hě'-sī'k by the Thās-tā-he'-tci' or Wyandots, being *enciente* by "He-holds-world," was cast down from the empyrean to this world, and soon after her fall gave birth to a daughter. This daughter, when of suitable age, was visited by a turtle in the form of a handsome young man. She died in giving birth to twins, one of whom was born in the natural way, while the other malevolently burst through the walls of his mother's abdomen, thus causing her death. It is curious to find that the stem of the word A-tā-hě'-sī'k denotes a snake, probably the copper-head, red-viper, or *Trigonocephalus contortrix*.

In Algonkian cosmogony *Māni'to* is the exact equivalent of the Iroquoian O'-jko'', having the same meanings and uses as *subtile*, *demon*, *witch*, or *wizard*. Qualified by the adjective *great* or *principal*, it denotes *God*, and by the adjective *bad* or *evil* it means *devil* or *Satan*. It is interesting to find in Shawnee and "Saukie" that *Māni'to* is also the name of a snake.

In Siouan wa-kañ' has similar meanings and uses as o'-jko'', namely, *mysterious* or *subtile*, and in Otoe, "snake."

Col. Garrick Mallery, of the Bureau of Ethnology, informs me that the Algonkin pictographic sign for *subtile* or *manito-like* is a *waving* or *serpentine* line or lines radiating from the object depicted as *manito-like*. In this fact we may have the explanation of the *snaky* hair of the noted Iroquoian wizard and adversary of Hi-a-hwā'-thā', Wa'-tha-to-tā'-hō'.

J. N. B. HEWITT.